U. S. RESEARCH FUND ASSURED

Engineering Foundation Offers Income on $200,000 Endowment.

EXPERTS INVESTIGATE PROGRESS ABROAD

Leaders Hope to Put Nation in Lead in Applying Science to Industry.

Assurance that the National Research Council, recently appointed by the National Academy of Sciences, at the request of President Wilson, to coordinate the scientific research of the United States, will have funds to proceed with the plans which its enthusiastic leaders have for putting this country in the lead of all nations in the application of science to industry or warfare, was received last night. It was announced that the funds of the Engineering Foundation, a heavily endowed organization of the four principal engineering societies in the United States, will be placed at the disposal of the Research Council.

Gano Dunn, chairman of the Engineering Foundation, who made the announcement, said that the resources consisted of the income of a $200,000 endowment, together with $5,000 additional yearly, both of which were gifts by Ambrose Swasey, telescope manufacturer and engineer, of Cleveland. In addition, Cleveland H. Dodge has headed a movement to raise other funds to further the work of the council.

It was also announced that the council will have at its disposal the services of the secretary of the Engineering Foundation, Dr. Cary T. Hutchinson, who will act as secretary of the council. Plans for immediate activity are in the hands of an executive committee which has established its headquarters in offices at the Engineering Society's building.

Science as Aid in War.

Enthusiastic over the work which the Research Council has begun, Dr. George Ellery Hale, chairman of the council, and Dr. William H. Welch, president of the National Academy of Sciences, have recently returned from a visit to England and France to learn at first hand what has been the recent organization of scientific resources in those countries. They said last night they believed there was a great field in prospect for the cultivation of a new relation between science and industry in the United States.

"In our brief visit to England and France," Dr. Hale went on, "Dr. Welch and I were afforded every opportunity to learn what these two countries, under pressure of war conditions, were doing to enlist the services of their scientists. It is common knowledge that they were much behind Germany in this respect before the war, and perhaps it cannot be said that they have yet caught up, but what they have accomplished in two years under the handicap of war is encouraging to us in contemplating what this vast country might do along similar lines in times of peace. In England all of the well known scientific men are at work, not only to make up for the deficiencies that are felt on account of the war, but looking to the laying of a permanent foundation for cooperation between science and industry and their respective governments. They are beginning, in fact, at the very root of the matter, by revising their school curricula.

"One striking thing is the fact that the new movement has drawn many scientists out of their own sphere—drawn them out of their shell, I might say—and brought their powerful intellects to bear on common problems. In France the Minister of Public Instruction, M. Painleve, a pure mathematician, is one of the ablest men of the French Cabinet, and the scientific men of France are organized most effectively under his department. One of the French astronomers has recently perfected a device to detect the presence of pieces of shrapnel in the human body; another has invented a range finder for getting the distance of Zeppelins.

Visit to English Mills.

"In England, Professor Jackson, of King's College, London, has been conducting a long series of researches to learn how to produce optical glasses for telescopes, microscopes, field glasses, etc., the best of which, prior to the war, came almost exclusively from the German subsidized firm of Schott & Co., in Jena. Ultimately England will be entirely independent of a foreign supply of these glasses.

"We also visited, among others, Sir Robert Hadfield, president of the Hadfield Steel Company of Sheffield, who discovered what is known as manganese steel, and another product known as low hysteresis steel. The latter is used in hundreds of thousands of transformers throughout the world, and in the decreased energy losses and other advantages it has perhaps saved America alone in a single year tens of millions of dollars. Sir Robert, we found, was one of those who believe science should not be always directed to immediate useful purposes. 'We must have,' he said, 'the toiler in pure science, who has not in view monetary gain, but is willing to advance the world's knowledge for the sake of knowledge and that alone. These are often the men who discover a little here and a little there, apparently of no particular service at the time, but afterward proving to be the basis of many of our great advances. It must be the aim of those in high authority not to destroy the pure scientist, but to try and bring his work into more intimate touch with progressive, everyday requirements.'

"The first thing on our programme is to undertake at once a national register of research, which will include an inventory of equipment for research in all the general educational, governmental and privately endowed institutions.

"Another important problem which we have already taken up is the determination of the best process for the production of nitric acid. The government has appropriated $20,000,000 for the production of this acid, which is invaluable for the manufacture of explosives and for fertilizers, and it has asked our aid in determining the best process. There are now many processes being tried in foreign countries for the manufacture of nitric acid, by taking it from the air and from waste products, and which of these, some of which are scarcely known here, is the best adapted for our purposes will be the object of this research.

"Another item will be an exhaustive study into the processes for the manufacture of optical and chemical glasses, which heretofore have come almost entirely from Germany."

Prominent Men in Council.

Dr. Hale, who is director of the Mount Wilson Solar Observatory, called attention also to the personnel of the council. Medicine, for example, is represented by Dr. William H. Welch, president of the National Academy; by Major General William C. Gorgas, surgeon general of the United States Army; Dr. Simon Flexner, director of the Rockefeller Medical Institute, and Dr. Victor C. Vaughan, past president of the American Medical Society; biological science by Dr. Edwin G. Conklin, professor of zoology, Princeton University; chemistry by Dr. A. A. Noyes, of Massachusetts Institute of Technology, and Dr. L. H. Baekeland; physics by Dr. A. A. Michelson of the University of Chicago, and electricity by Professor M. I. Pupin, of Columbia University. These branches, with the exception of medicine, are in the realm of pure science.

Recognizing, however, that the practical applications of the principles which the pure scientists discover rest largely with engineers, there is a strong representation from the great engineering societies. Clemens Herschel, president of the American Society of Civil Engineers; John J. Carty, chief engineer of the American Telephone and Telegraph Company; Gano Dunn, president of the J. G. White Engineering Corporation; C. E. Skinner, director of the research laboratory of the Westinghouse Company, and Dr. W. R. Whitney, director of the research laboratory of the General Electric Company, are among those who will represent the engineering side of the council's work.

The important military aspects will be presented to the council by Major General William Crozier, chief of ordnance of the United States Army, and Lieutenant Colonel George O. Squier, chief of aviation of the United States Army, and Chief Constructor David W. TAaylor, United States Navy, will represent other phases of the military problem. Other branches of the government are represented by Dr. S. W. Stratton, director of the National Bureau of Standards; Van H. Manning, director of the Bureau of Mines, and Professor Charles F. Marvin, chief of the United States Weather Bureau.

Other members ofthe council are Dr. John A. Brashear, of Pittsburgh; Dr. W. F. M. Goss, dean of engineering, University of Illinois; Dr. William H. Holmes, curator United States National Museum; Dr. W. W. Keen, president American Philosophical Society; Professor E. C. Pickering, director of the Harvard College Observatory; Charles F. Rand, president United Engineering Society; Professor Theodore W. Richards, Harvard University; Professor Millikan, of the University of Chicago; Ambrose Swasey, of Cleveland; Dr. Elihu Thomson, Swampscott, Mass.; Dr. C. R. Van Hise, president of the American Association for the Advancement of Science; Dr. Charles D. Walcott, secretary of the Smithsonian Institution, and Dr. J. M. Coulter, professor of botany at Princeton University.

ALBANY HONORS SHERIDAN

Statue of Civil War Hero Unveiled in Capital Plaza.

Albany, Oct. 7.—The state and the city of Albany paid tribute to-day to the memory of General Philip H. Sheridan of Civil War fame. The occasion was the unveiling of a bronze equestrian statue of the cavalry leader, which was purchased by joint contributions by the state and this city, his birthplace.

Veterans from all parts of the country, including half a hundred who served under Sheridan in the Shenandoah campaign, were here to participate in the exercises, the programme for which included a memorial mass, a street parade through flag-draped streets, and speeches by Governor Whitman and former Governor Glynn. Detachments of the regular army, the National Guard, Spanish War veterans, boy scouts, 2,000 school children and many civic organizations took part.

U. S. ASKS INVENTORS TO SHOW MACHINE GUNS

Probably Will Submit Weapons to Competitive Test.

Washington, Oct. 7.—Inventors and manufacturers throughout the country were invited to-day to submit completed machine guns as soon as possible to the board created by Secretary Baker to investigate this type of gun for the United States Army.

The board expects representatives of manufacturers to appear before it here next week, but is anxious that every manufacturer or inventor who desires have an opportunity to be heard. The guns probably will be submitted to a competitive test.